Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A shared storage network system,

- comprising

    o   a plurality of storage servers, each providing a storage portion of the shared storage network system, each storage portion being divided into a plurality of sectors, each sector being divided into a plurality of blocks, a virtual block identifier being associated to each of the blocks such that the entirety of all of the virtual block identifiers of the blocks form a global block address space in which each of the virtual block identifiers is unique;

    o   at least one storage client;

- wherein

    o   the plurality of storage servers and the at least one storage client are grouped into a plurality of local area networks interconnected to form a global network;

    o   the at least one storage client is adapted to have read and/or write access to at least one block of at least one of the storage portions associated to one of the local area networks which differs from the local area network of the storage client;

    o   the plurality of local area networks are interconnected such that in case of a read or a write access of one of the at least one storage client to at least one of the blocks, the virtual block address of a block to which access is desired is translated into a physical block address to identify the physical block associated with the virtual block; and

    o   the shared network system is adapted such that the physical block address of each block comprises a non-deterministic physical block address to address the unique physical block mapping to a particular virtual block associated with a particular virtual block identifier, and a deterministic physical block address to

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address a unique physical block in the global network to determine the location of the associated physical block.

2. (Original) The shared storage network system according to claim 1, wherein the global network is an optical network.

3. (Currently amended) The shared storage network system according to claim 1 ~~or 2~~, wherein at least one of the local area networks comprises a linking computer being interconnected as a link between the at least one storage server and/or the at least one storage client of the local area network associated with the linking computer on the one hand and the remaining local area networks on the other hand.

4. (Original) The shared storage network system according to claim 3, wherein the linking computer is adapted to perform the translation of a virtual block address of a block to which access is desired into the physical block address of this block.

5. (Currently amended) The shared storage network system according to ~~any of claims 1 to 4~~ claim 1, wherein at least one of the local area networks is an optical network or a wired network.

6. (Currently amended) The shared storage network system according to ~~any of claims 1 to 5~~ claim 1, which is adapted to operate based on the Storage Networking Industry Association standard.

7. (Currently amended) The shared storage network system according to ~~any of claims 3 to 6~~ claim 3, wherein a unique computer identifier is associated to each storage server and/or to each storage client and/or to each linking computer of each of the local area networks.

8. (Original) The shared storage network system according to claim 7, wherein the unique computer identifier is determined as a hash.

9. (Currently amended) The shared storage network system according to claim 7 ~~or 8~~, wherein the unique computer identifier is determined as a cryptographic hash.

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10. (Currently amended) The shared storage network system according to claim 8 ~~or 9~~, wherein the hash is based on the internet protocol address of the computer and on a private key.

11. (Currently amended) The shared storage network system according to ~~any of claims 1 to 10~~ claim 1, which is adapted such that a temporally varying attachment and detachment of storage servers and/or storage clients to the shared storage network system is enabled.

12. (Currently amended) The shared storage network system according to ~~any of claims 1 to 11~~ claim 1, which is adapted such that routing, in case of a read or a write access communication between a storage client and a storage server, is implemented by a fully adaptive routing scheme adapted to find a global network-wide least-cost path.

13. (Original) The shared storage network system according to claim 12, wherein the global network-wide least-cost path is determined based on a dynamic link state and/or a custom-designed cost function.

14. (Currently amended) The shared storage network system according to ~~any of claims 1 to 11~~ claim 1, which is adapted such that routing, in case of a read or a write access communication between a storage client and a storage server, is implemented by a partially adaptive routing scheme, according to which a plurality of alternate paths between a pair of a storage client and a storage server are stored in a routing table at the storage client and/or the storage server.

15. (Currently amended) The shared storage network system according to ~~any of claims 1 to 11~~ claim 1, which is adapted such that routing, in case of a read or a write access communication between a storage client and a storage server, is implemented by a static adaptive routing scheme, according to which one or more fixed alternate paths between a pair constituted by a storage client and a storage server are stored at the storage client and/or the storage server.

16. (Currently amended) The shared storage network system according to ~~any of claims 1 to 15~~ claim 1, which is adapted such that, in case of a predetermined global network path for a read or a write access communication between a storage client and a storage server,

one or more other storage clients and/or storage servers along said path are implemented as cache storage nodes for temporarily storing data transmitted according to the read or write access.

17. (Canceled)

18. (Currently amended) The shared storage network system according to ~~any of claims 1 to 17~~ claim 1, which is adapted to implement a storage data transmission scheme comprising an optical burst mode flow control and an optical stop-over burst transmission method.

19. (Currently amended) A method for operating a shared storage network system,

- the shared storage network system comprising

  o   a plurality of storage servers, each providing a storage portion of the shared storage network system, each storage portion being divided into a plurality of sectors, each sector being divided into a plurality of blocks, a virtual block identifier being associated to each of the blocks such that the entirety of all of the virtual block identifiers of the blocks form a global block address space in which each of the virtual block identifiers is unique;

  o   at least one storage client;

  o   a plurality of local area networks, wherein the plurality of storage servers and the at least one storage client are grouped into the plurality of local area networks interconnected to form a global network;

- the method comprising the steps of:

  o   adapting the at least one storage client to have read and/or write access to at least one block of at least one of the storage portions associated to one of the local area networks which differs from the local area network of the storage client;

  o   interconnecting the plurality of local area networks such that in case of a read or a write access of one of the at least one storage client to at least one of the blocks, the virtual block address of a block to which access is desired is

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translated into a physical block address to identify the physical block associated with the virtual block; and

o   adapting the shared storage network system such that the physical block address of each block comprises a non-deterministic physical block address to address the unique physical block mapping to a particular virtual block associated with a particular virtual block identifier, and a deterministic physical block address to address a unique physical block in the global network to determine the location of the associated physical block.

20. (New) The shared storage network system according to claim 9, wherein the hash is based on the internet protocol address of the computer and on a private key.